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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/937,580      | 01/04/2002  | David Mendlovic      | u 013655-0          | 2514             |

140 7590 11/15/2004

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26 WEST 61ST STREET  
NEW YORK, NY 10023

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| EXAMINER |
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KASSA, YOSEF

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| ART UNIT | PAPER NUMBER |
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2625

DATE MAILED: 11/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                                      |   |  |
|------------------------------|--------------------------------------|---|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>09/937,580 | <b>Applicant(s)</b><br>MENDLOVIC ET AL. |  |
|                              | <b>Examiner</b><br>YOSEF KASSA       | <b>Art Unit</b><br>2625                 |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 04 January 2000.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-64 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 23-30 and 48-64 is/are rejected.
- 7) ☒ Claim(s) 6-22 and 31-47 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>01/15/2002</u> .  | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5, 26-30, 51-64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakao et al (U.S. Patent 5,909,521), and further in view of Olmstead et al (U.S. Patent 6,073,851).

With regard to claim 1, Nakao et al discloses generating multiple fields of view (which reads on detecting plurality of partial image see col. 3, lines 18-20),

acquiring multiple images with the image sensing device from the multiple fields of view (see col. 5, lines 1-3, note that, the partial images take form different position); and

combining, i.e., synthesizing, the multiple images into an enhanced image of higher pixel resolution than the pixel resolutions of the multiple images (see col. 5, lines 23-31 and col. 6, lines 10-27, note that, the process of synthesizing plurality of partial images is performed to provide high resolution image).

Nakao et al did not call for attaching a mask to a panel of detectors in an image sensing device and the multiple fields of view being related to one another by sub-pixel shift, i.e., bar code image,. However, at the same field of endeavor, Olmstead et al discloses this feature (see abstract). At the time of the invention was made, it would

Art Unit: 2625

have been obvious to incorporate the teaching of Olmstead bar code image reading process into Nakao et al system. The motivation doing so is to provide bar code image reading process for enhancing the bar code images.

With regard to claim 2, Nakao et al discloses wherein the image sensing device is a scanner (see Fig. 1, item 10).

With regard to claim 3, Nakao et al is silent about the image sensing device is a barcode reader. However, at the same field of endeavor, Olmstead et al taught this feature (see col. 2, lines 50-55). At the time of the invention was made, it would have been obvious to incorporate the teaching of Olmstead bar code image reader into Nakao et al system. The motivation doing so is to provide bar code image reader for scanning bar code images for image enhancement process.

With regard to claim 4, Nakao et al discloses wherein the image sensing device is a CCD camera (see col. 3, lines 54-58).

With regard to claim 5, Nakao et al discloses wherein the mask is a fine transmission grating (see Fig. 52A item 1091).

Claim 26 is similarly analyzed as claim 1.

Claims 27-30 are similarly analyzed as claims 2-5.

Claims 48-50 are similarly analyzed as claims 23-25.

Claims 51 and 58 are similarly analyzed as claim 1.

With regard to claim 52, Nakao et al discloses wherein the optical element is a diffractive optical element (note that, a camera unit, Fig. 1, item 10, comprises diffractive optical element).

Art Unit: 2625

With regard to claim 53, Nakao et al discloses wherein the optical element is a reflective optical element (note that, a camera unit, Fig. 1, item 10, comprises reflective optical element).

Claim 54 is similarly analyzed as claims 52 and 53.

With regard to claim 55, Nakao et al discloses wherein the optical element is a Produces an effect of a grating (see col. 3, lines 53-58).

With regard to claim 56, Nakao et al discloses wherein the optical element is multi faceted (see Fig. 52c).

With regard to claim 57, Nakao et al discloses wherein the replicas of fields or views are non-overlapping (see col. 10, lines 49-55, the process of correcting the overlapped images).

Claims 58-64 are similarly analyzed as claims 51-57.

2. Claims 23-25 and 48-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakao et al (U.S. Patent 5,909,521), Olmstead et al (U.S. Patent 6,073,851), and further in view of Irino et al (U.S. Patent 6,675,140).

With regard to claims 23-25 and 48-50, Nakao et al is silent about combining step uses a Gabor, wavelet and Mellin transformation process. However, at the same field of endeavor, Irino et al discloses this feature (see col. 9, lines 6-15 and col. 12, lines 29-35). At the time of the invention was made, it would have been obvious to incorporate the teaching of Irino et al Gabor, wavelet and Mellin transformation process into Nakao et al system. The motivation doing so is to provide Gabor, wavelet and Mellin image data transformation, to perform image enhancement process.

***Allowable Subject Matter***

3. Claims 6-22 and 31-47 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Other Prior Art Cited***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent No. (5,218,457) to Burkhardt et al disclose high speed, high resolution image processing system.

US Patent No. (5,572,037) to Liu et al disclose digital imaging using a scanning mirror apparatus.

US Patent No. (4,511,929) to Maeda et al discloses picture image information recording apparatus.

US Patent No. (6,310,967) to Heine et al disclose normal and abnormal tissue identification system...

***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to YOSEF KASSA whose telephone number is (703) 306-

Art Unit: 2625

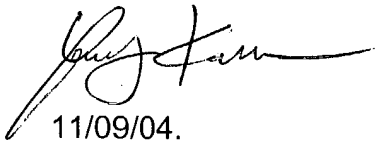
5918. The examiner can normally be reached on Monday-Thursday from 8:00 AM to 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, BHAVESH MEHTA can be reached on (703) 308-5246. The fax phone numbers for the organization where this application or proceeding is assigned is (703) 872-9306 for regular communication and (703) 872-9306 for after Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the customer service office whose telephone number is (703) 306-5631. The group receptionist number for TC 2600 is (703) 305-4700.

**PATENT EXAMINER**

Yosef Kassa

A handwritten signature in black ink, appearing to read 'Yosef Kassa', with a long horizontal flourish extending to the right.

11/09/04.